

CLAIMS

Having described the invention that which is claimed is:

1. A curable composition comprising

(A) the condensation reaction product of an aromatic soluble silicone resin or resinous copolymer with an alkenyl-containing polydiorganosiloxane, the said condensation reaction product is further reacted with a hydrosilylating agent to render the remaining silanol groups from the condensation reaction with hydrosilylation groups and a

(B) a hydrosilylation catalyst.

2. The composition of claim 1 additionally comprising a hydrosilylation inhibitor.

3. The composition of claim 1 wherein slightly more than 0 to 90 percent organic solvents selected from the group consisting of aromatic and non-aromatic solvents, cyclic diorganosiloxanes and linear volatile silicones (added to specification) is incorporated.

4. The composition of claim 1 wherein the resin or resinous copolymer ranges from about 50 to about 75 parts by weight and the alkenyl-containing polydiorganosiloxane ranges from about 25 parts to about 50 parts.

5. The composition of claim 1 wherein (putting this word in a claim renders it legally indefinite under section 112) the resin or resinous copolymer ranges from about 50 to about 70 parts by weight and the alkenyl-containing polydiorganosiloxane ranges from about 30 parts to about 50 parts.

6. The composition of claim 1 wherein (112 again) the resin or resinous copolymer ranges from about 50 to about 62 parts by weight and the alkenyl-containing polydiorganosiloxane ranges from about 38 parts to about 50 parts.

7. The composition of claim 1 wherein the resin or resinous copolymer is comprised of $R_3SiO_{1/2}$ units and $SiO_{4/2}$ units wherein each R is independently a monovalent hydrocarbon radical having from 1 to about 6 carbon atoms, subject to the limitation that at least 95% of all R groups are alkyl.

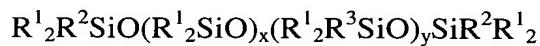
8. The composition of claim 7 wherein the resin or resinous copolymer comprises a molar ratio of $R_3SiO_{1/2}$ to $SiO_{4/2}$ of from about 0.6 to about 1.2 inclusive.

9. The composition of claim 8 wherein the resin or resinous copolymer comprises from about 0.2% to about 5.0% by weight, based on the total weight of the copolymer, hydroxyl radicals.

10. The composition of claim 8 wherein the resin or resinous copolymer preferably comprises from about 1.0% to about 3.0% by weight, based on the total weight of the copolymer, hydroxyl radicals.

11. The composition of claim 8 wherein the resin or resinous copolymer most preferably comprises from about 1.5% to about 2.5% by weight, based on the total weight of the copolymer, hydroxyl radicals.

12. The composition of claim 1 wherein the alkenyl-containing polydiorganosiloxane of the present invention is a polydiorganosiloxane of the following formula:



wherein each R^1 is independently an alkyl group having from 1 to about 10 carbon atoms such as methyl, ethyl, and propyl; a cycloaliphatic group such as cyclohexanyl or an aryl group such as phenyl; R^2 is a hydroxyl or an alkenyl group having from 1 to about 10 carbon atoms including α -alkenyls such as vinyl, allyl, propenyl, butenyl, pentenyl, hexenyl or the like; R^3 is either R^1 or an alkenyl group having from 1 to about 10 carbon.

13. The composition of claim 12 wherein the alkenyl-containing polydiorganosiloxane of component (A) is at least about 3,000 centipoises at 25 °C.

14. The composition of claim 12 wherein the alkenyl-containing polydiorganosiloxane of component (A) is at least about 10,000 centipoises at 25 °C.

15. The composition of claim 1 wherein the said condensation reaction product of the aromatic soluble resin or resinous copolymer and an alkenyl-containing polydiorganosiloxane is further reacted with a hydrosilylating agent to render the silanol groups remaining from the condensation reaction with $R^1_aSiX_{4-a/2}$ wherein R^1 is R or H, and X is N, CL, O, and a is from about 0.5 to 2.0.

16. The composition of claim 15 wherein silanol termination to yield a silicon-hydride functionality is preferably selected from silazanes, disilazanes, polysilazanes, and siloxanes (do you mean here that conversion reagents to produce the hydride are to be selected from the group consisting of? Yes).

17. The composition of claim 15 wherein slightly more than 0to90 percent is organic solvents selected from the group consisting of aromatic and non-aromatic solvents, cyclic diorganosiloxanes and linear volatile silicones is incorporated.
See edits to claim 3

18. The composition of claim 17 further comprising a hydrosilylation inhibitor.

19. The composition of claim 18 wherein the amount of hydrosilylation inhibitor ranges from about 0.1 % to about-10% by weight.

20. The composition of claim 18 wherein hydrosilylation inhibitor range is 0.15-2% by weight.

21. The composition of claim 18 wherein hydrosilylation inhibitor range can be 0.2-1% by weight.

22. The composition of claim 18 wherein hydrosilylation inhibitors are selected from the group consisting of maleates and alkynyl alcohols.

23. The composition of claim 1 wherein the hydrosilylation catalyst is selected from the group consisting of nickel, palladium, platinum, rhodium, iridium, ruthenium and osmium.

24. The composition of claim 23 wherein the hydrosilylation catalyst arranges from about 5 to about ppm based on total composition are incorporated (in what?).

25. The composition of claim 1 having a coating viscosity ranging from about 5,000 to about 200,000 centipoise.

26. The composition of claim 1 wherein the coating viscosity ranges is preferably from about 5,000 to about 100,000 centipoise.

27. The composition of claim 1 wherein is the coating viscosity range is most preferably from about 5,000 to about 60,000 centipoise.

28. The composition of claim 1 further comprising water as an emulsion.

29. The composition of claim 15 further comprising water as an emulsion.

30. The composition of claim 1 that is the reaction product of (A) and (B).

31. The composition of claim 30 wherein the organic solvent ranges from about 30 to about 70 per cent based on total solids.

32. The composition of claim 31 further comprising water as an emulsion.